

**Annex 3D. Agricultural Residue Burning (IPCC 3C1B)**  
**to the Technical Support Document for California's 2000-2014 Greenhouse Gas**  
**Emission Inventory**

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**Variables Used in the Emissions Estimation Equations**

*Values last updated on Wednesday, March 30, 2016*

**IPCC category = 3C1b — Aggregate Sources and Non-CO<sub>2</sub> Emissions Sources on Land - Emissions from Biomass Burning - Biomass Burning in Croplands**

**Activity = Crop acreage burned - Almond**

<b>- Variable Name -</b>	<b>- Year -</b>	<b>- Value and Units -</b>	<b>- Reference -</b>
Crop acreage burned - Almond	2000	428,400 acre	Calculation, see text
Crop acreage burned - Almond	2001	445,200 acre	Calculation, see text
Crop acreage burned - Almond	2002	457,800 acre	Calculation, see text
Crop acreage burned - Almond	2003	462,000 acre	Calculation, see text
Crop acreage burned - Almond	2004	478,800 acre	Calculation, see text
Crop acreage burned - Almond	2005	495,600 acre	Calculation, see text
Crop acreage burned - Almond	2006	512,400 acre	Calculation, see text
Crop acreage burned - Almond	2007	545,909 acre	Calculation, see text
Crop acreage burned - Almond	2008	596,400 acre	Calculation, see text
Crop acreage burned - Almond	2009	630,000 acre	Calculation, see text
Crop acreage burned - Almond	2010	646,800 acre	Calculation, see text
Crop acreage burned - Almond	2011	672,000 acre	Calculation, see text
Crop acreage burned - Almond	2012	687,053 acre	Calculation, see text
Crop acreage burned - Almond	2013	714,000 acre	Calculation, see text
Crop acreage burned - Almond	2014	730,800 acre	Calculation, see text
CH4 emission factor	2000	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2001	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2002	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2003	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2004	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2005	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2006	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2007	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2008	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2009	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2010	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2011	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2012	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2013	1.170E-03	Jenkins et al. 1996
CH4 emission factor	2014	1.170E-03	Jenkins et al. 1996
CO2 emission factor	2000	1.83	Jenkins et al. 1996
CO2 emission factor	2001	1.83	Jenkins et al. 1996
CO2 emission factor	2002	1.83	Jenkins et al. 1996
CO2 emission factor	2003	1.83	Jenkins et al. 1996
CO2 emission factor	2004	1.83	Jenkins et al. 1996
CO2 emission factor	2005	1.83	Jenkins et al. 1996
CO2 emission factor	2006	1.83	Jenkins et al. 1996
CO2 emission factor	2007	1.83	Jenkins et al. 1996
CO2 emission factor	2008	1.83	Jenkins et al. 1996
CO2 emission factor	2009	1.83	Jenkins et al. 1996
CO2 emission factor	2010	1.83	Jenkins et al. 1996
CO2 emission factor	2011	1.83	Jenkins et al. 1996
CO2 emission factor	2012	1.83	Jenkins et al. 1996
CO2 emission factor	2013	1.83	Jenkins et al. 1996
CO2 emission factor	2014	1.83	Jenkins et al. 1996

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop acreage	2000	510,000 acre	USDA, 2016
Crop acreage	2001	530,000 acre	USDA, 2016
Crop acreage	2002	545,000 acre	USDA, 2016
Crop acreage	2003	550,000 acre	USDA, 2016
Crop acreage	2004	570,000 acre	USDA, 2016
Crop acreage	2005	590,000 acre	USDA, 2016
Crop acreage	2006	610,000 acre	USDA, 2016
Crop acreage	2007	649,892 acre	USDA, 2016
Crop acreage	2008	710,000 acre	USDA, 2016
Crop acreage	2009	750,000 acre	USDA, 2016
Crop acreage	2010	770,000 acre	USDA, 2016
Crop acreage	2011	800,000 acre	USDA, 2016
Crop acreage	2012	817,920 acre	USDA, 2016
Crop acreage	2013	850,000 acre	USDA, 2016
Crop acreage	2014	870,000 acre	USDA, 2016
Crop residue	2000	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2001	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2002	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2003	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2004	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2005	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2006	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2007	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2008	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2009	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2010	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2011	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2012	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2013	1,890,000 g / ha	Jenkins et al. 1992
Crop residue	2014	1,890,000 g / ha	Jenkins et al. 1992
Fraction of acreage burned	2000	0.84	Jenkins et al. 1992
Fraction of acreage burned	2001	0.84	Jenkins et al. 1992
Fraction of acreage burned	2002	0.84	Jenkins et al. 1992
Fraction of acreage burned	2003	0.84	Jenkins et al. 1992
Fraction of acreage burned	2004	0.84	Jenkins et al. 1992
Fraction of acreage burned	2005	0.84	Jenkins et al. 1992
Fraction of acreage burned	2006	0.84	Jenkins et al. 1992
Fraction of acreage burned	2007	0.84	Jenkins et al. 1992
Fraction of acreage burned	2008	0.84	Jenkins et al. 1992
Fraction of acreage burned	2009	0.84	Jenkins et al. 1992
Fraction of acreage burned	2010	0.84	Jenkins et al. 1992
Fraction of acreage burned	2011	0.84	Jenkins et al. 1992
Fraction of acreage burned	2012	0.84	Jenkins et al. 1992
Fraction of acreage burned	2013	0.84	Jenkins et al. 1992
Fraction of acreage burned	2014	0.84	Jenkins et al. 1992
N2O emission factor	2000	2.000E-04	Jenkins et al. 1996
N2O emission factor	2001	2.000E-04	Jenkins et al. 1996
N2O emission factor	2002	2.000E-04	Jenkins et al. 1996
N2O emission factor	2003	2.000E-04	Jenkins et al. 1996
N2O emission factor	2004	2.000E-04	Jenkins et al. 1996
N2O emission factor	2005	2.000E-04	Jenkins et al. 1996
N2O emission factor	2006	2.000E-04	Jenkins et al. 1996
N2O emission factor	2007	2.000E-04	Jenkins et al. 1996
N2O emission factor	2008	2.000E-04	Jenkins et al. 1996
N2O emission factor	2009	2.000E-04	Jenkins et al. 1996
N2O emission factor	2010	2.000E-04	Jenkins et al. 1996

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

N2O emission factor	2011	2.000E-04	Jenkins et al. 1996
N2O emission factor	2012	2.000E-04	Jenkins et al. 1996
N2O emission factor	2013	2.000E-04	Jenkins et al. 1996
N2O emission factor	2014	2.000E-04	Jenkins et al. 1996
<b>Activity = Crop acreage burned - Barley</b>			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Crop acreage burned - Barley	2000	6,650 acre	Calculation, see text
Crop acreage burned - Barley	2001	7,700 acre	Calculation, see text
Crop acreage burned - Barley	2002	5,230 acre	Calculation, see text
Crop acreage burned - Barley	2003	4,060 acre	Calculation, see text
Crop acreage burned - Barley	2004	5,250 acre	Calculation, see text
Crop acreage burned - Barley	2005	4,200 acre	Calculation, see text
Crop acreage burned - Barley	2006	4,550 acre	Calculation, see text
Crop acreage burned - Barley	2007	3,089 acre	Calculation, see text
Crop acreage burned - Barley	2008	4,200 acre	Calculation, see text
Crop acreage burned - Barley	2009	3,850 acre	Calculation, see text
Crop acreage burned - Barley	2010	5,250 acre	Calculation, see text
Crop acreage burned - Barley	2011	5,250 acre	Calculation, see text
Crop acreage burned - Barley	2012	5,737 acre	Calculation, see text
Crop acreage burned - Barley	2013	2,940 acre	Calculation, see text
Crop acreage burned - Barley	2014	1,750 acre	Calculation, see text
CH4 emission factor	2000	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2001	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2002	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2003	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2004	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2005	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2006	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2007	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2008	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2009	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2010	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2011	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2012	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2013	2.470E-03	Jenkins et al. 1996
CH4 emission factor	2014	2.470E-03	Jenkins et al. 1996
CO2 emission factor	2000	1.17	Jenkins et al. 1996
CO2 emission factor	2001	1.17	Jenkins et al. 1996
CO2 emission factor	2002	1.17	Jenkins et al. 1996
CO2 emission factor	2003	1.17	Jenkins et al. 1996
CO2 emission factor	2004	1.17	Jenkins et al. 1996
CO2 emission factor	2005	1.17	Jenkins et al. 1996
CO2 emission factor	2006	1.17	Jenkins et al. 1996
CO2 emission factor	2007	1.17	Jenkins et al. 1996
CO2 emission factor	2008	1.17	Jenkins et al. 1996
CO2 emission factor	2009	1.17	Jenkins et al. 1996
CO2 emission factor	2010	1.17	Jenkins et al. 1996
CO2 emission factor	2011	1.17	Jenkins et al. 1996
CO2 emission factor	2012	1.17	Jenkins et al. 1996
CO2 emission factor	2013	1.17	Jenkins et al. 1996
CO2 emission factor	2014	1.17	Jenkins et al. 1996
Crop acreage	2000	95,000 acre	USDA, 2016
Crop acreage	2001	110,000 acre	USDA, 2016
Crop acreage	2002	74,712 acre	USDA, 2016
Crop acreage	2003	58,000 acre	USDA, 2016

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop acreage	2004	75,000 acre	USDA, 2016
Crop acreage	2005	60,000 acre	USDA, 2016
Crop acreage	2006	65,000 acre	USDA, 2016
Crop acreage	2007	44,125 acre	USDA, 2016
Crop acreage	2008	60,000 acre	USDA, 2016
Crop acreage	2009	55,000 acre	USDA, 2016
Crop acreage	2010	75,000 acre	USDA, 2016
Crop acreage	2011	75,000 acre	USDA, 2016
Crop acreage	2012	81,954 acre	USDA, 2016
Crop acreage	2013	42,000 acre	USDA, 2016
Crop acreage	2014	25,000 acre	USDA, 2016
Crop residue	2000	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2001	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2002	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2003	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2004	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2005	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2006	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2007	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2008	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2009	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2010	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2011	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2012	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2013	2,510,000 g / ha	Jenkins et al. 1992
Crop residue	2014	2,510,000 g / ha	Jenkins et al. 1992
Fraction of acreage burned	2000	0.07	Jenkins et al. 1992
Fraction of acreage burned	2001	0.07	Jenkins et al. 1992
Fraction of acreage burned	2002	0.07	Jenkins et al. 1992
Fraction of acreage burned	2003	0.07	Jenkins et al. 1992
Fraction of acreage burned	2004	0.07	Jenkins et al. 1992
Fraction of acreage burned	2005	0.07	Jenkins et al. 1992
Fraction of acreage burned	2006	0.07	Jenkins et al. 1992
Fraction of acreage burned	2007	0.07	Jenkins et al. 1992
Fraction of acreage burned	2008	0.07	Jenkins et al. 1992
Fraction of acreage burned	2009	0.07	Jenkins et al. 1992
Fraction of acreage burned	2010	0.07	Jenkins et al. 1992
Fraction of acreage burned	2011	0.07	Jenkins et al. 1992
Fraction of acreage burned	2012	0.07	Jenkins et al. 1992
Fraction of acreage burned	2013	0.07	Jenkins et al. 1992
Fraction of acreage burned	2014	0.07	Jenkins et al. 1992
N2O emission factor	2000	2.000E-04	Jenkins et al. 1996
N2O emission factor	2001	2.000E-04	Jenkins et al. 1996
N2O emission factor	2002	2.000E-04	Jenkins et al. 1996
N2O emission factor	2003	2.000E-04	Jenkins et al. 1996
N2O emission factor	2004	2.000E-04	Jenkins et al. 1996
N2O emission factor	2005	2.000E-04	Jenkins et al. 1996
N2O emission factor	2006	2.000E-04	Jenkins et al. 1996
N2O emission factor	2007	2.000E-04	Jenkins et al. 1996
N2O emission factor	2008	2.000E-04	Jenkins et al. 1996
N2O emission factor	2009	2.000E-04	Jenkins et al. 1996
N2O emission factor	2010	2.000E-04	Jenkins et al. 1996
N2O emission factor	2011	2.000E-04	Jenkins et al. 1996
N2O emission factor	2012	2.000E-04	Jenkins et al. 1996
N2O emission factor	2013	2.000E-04	Jenkins et al. 1996
N2O emission factor	2014	2.000E-04	Jenkins et al. 1996

**Activity = Crop acreage burned - Corn**

<b>- Variable Name -</b>	<b>- Year -</b>	<b>- Value and Units -</b>	<b>- Reference -</b>
Crop acreage burned - Corn	2000	6,150 acre	Calculation, see text
Crop acreage burned - Corn	2001	4,800 acre	Calculation, see text
Crop acreage burned - Corn	2002	5,051 acre	Calculation, see text
Crop acreage burned - Corn	2003	4,200 acre	Calculation, see text
Crop acreage burned - Corn	2004	4,500 acre	Calculation, see text
Crop acreage burned - Corn	2005	3,900 acre	Calculation, see text
Crop acreage burned - Corn	2006	3,300 acre	Calculation, see text
Crop acreage burned - Corn	2007	5,699 acre	Calculation, see text
Crop acreage burned - Corn	2008	5,100 acre	Calculation, see text
Crop acreage burned - Corn	2009	4,800 acre	Calculation, see text
Crop acreage burned - Corn	2010	5,400 acre	Calculation, see text
Crop acreage burned - Corn	2011	4,500 acre	Calculation, see text
Crop acreage burned - Corn	2012	5,420 acre	Calculation, see text
Crop acreage burned - Corn	2013	5,400 acre	Calculation, see text
Crop acreage burned - Corn	2014	2,850 acre	Calculation, see text
CH4 emission factor	2000	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2001	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2002	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2003	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2004	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2005	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2006	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2007	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2008	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2009	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2010	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2011	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2012	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2013	1.750E-03	Jenkins et al. 1996
CH4 emission factor	2014	1.750E-03	Jenkins et al. 1996
CO2 emission factor	2000	1.31	Jenkins et al. 1996
CO2 emission factor	2001	1.31	Jenkins et al. 1996
CO2 emission factor	2002	1.31	Jenkins et al. 1996
CO2 emission factor	2003	1.31	Jenkins et al. 1996
CO2 emission factor	2004	1.31	Jenkins et al. 1996
CO2 emission factor	2005	1.31	Jenkins et al. 1996
CO2 emission factor	2006	1.31	Jenkins et al. 1996
CO2 emission factor	2007	1.31	Jenkins et al. 1996
CO2 emission factor	2008	1.31	Jenkins et al. 1996
CO2 emission factor	2009	1.31	Jenkins et al. 1996
CO2 emission factor	2010	1.31	Jenkins et al. 1996
CO2 emission factor	2011	1.31	Jenkins et al. 1996
CO2 emission factor	2012	1.31	Jenkins et al. 1996
CO2 emission factor	2013	1.31	Jenkins et al. 1996
CO2 emission factor	2014	1.31	Jenkins et al. 1996
Crop acreage	2000	205,000 acre	USDA, 2016
Crop acreage	2001	160,000 acre	USDA, 2016
Crop acreage	2002	168,354 acre	USDA, 2016
Crop acreage	2003	140,000 acre	USDA, 2016
Crop acreage	2004	150,000 acre	USDA, 2016
Crop acreage	2005	130,000 acre	USDA, 2016
Crop acreage	2006	110,000 acre	USDA, 2016
Crop acreage	2007	189,965 acre	USDA, 2016

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop acreage	2008	170,000 acre	USDA, 2016
Crop acreage	2009	160,000 acre	USDA, 2016
Crop acreage	2010	180,000 acre	USDA, 2016
Crop acreage	2011	150,000 acre	USDA, 2016
Crop acreage	2012	180,672 acre	USDA, 2016
Crop acreage	2013	180,000 acre	USDA, 2016
Crop acreage	2014	95,000 acre	USDA, 2016
Crop residue	2000	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2001	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2002	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2003	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2004	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2005	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2006	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2007	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2008	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2009	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2010	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2011	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2012	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2013	9,060,000 g / ha	Jenkins et al. 1992
Crop residue	2014	9,060,000 g / ha	Jenkins et al. 1992
Fraction of acreage burned	2000	0.03	Jenkins et al. 1992
Fraction of acreage burned	2001	0.03	Jenkins et al. 1992
Fraction of acreage burned	2002	0.03	Jenkins et al. 1992
Fraction of acreage burned	2003	0.03	Jenkins et al. 1992
Fraction of acreage burned	2004	0.03	Jenkins et al. 1992
Fraction of acreage burned	2005	0.03	Jenkins et al. 1992
Fraction of acreage burned	2006	0.03	Jenkins et al. 1992
Fraction of acreage burned	2007	0.03	Jenkins et al. 1992
Fraction of acreage burned	2008	0.03	Jenkins et al. 1992
Fraction of acreage burned	2009	0.03	Jenkins et al. 1992
Fraction of acreage burned	2010	0.03	Jenkins et al. 1992
Fraction of acreage burned	2011	0.03	Jenkins et al. 1992
Fraction of acreage burned	2012	0.03	Jenkins et al. 1992
Fraction of acreage burned	2013	0.03	Jenkins et al. 1992
Fraction of acreage burned	2014	0.03	Jenkins et al. 1992
N2O emission factor	2000	1.000E-04	Jenkins et al. 1996
N2O emission factor	2001	1.000E-04	Jenkins et al. 1996
N2O emission factor	2002	1.000E-04	Jenkins et al. 1996
N2O emission factor	2003	1.000E-04	Jenkins et al. 1996
N2O emission factor	2004	1.000E-04	Jenkins et al. 1996
N2O emission factor	2005	1.000E-04	Jenkins et al. 1996
N2O emission factor	2006	1.000E-04	Jenkins et al. 1996
N2O emission factor	2007	1.000E-04	Jenkins et al. 1996
N2O emission factor	2008	1.000E-04	Jenkins et al. 1996
N2O emission factor	2009	1.000E-04	Jenkins et al. 1996
N2O emission factor	2010	1.000E-04	Jenkins et al. 1996
N2O emission factor	2011	1.000E-04	Jenkins et al. 1996
N2O emission factor	2012	1.000E-04	Jenkins et al. 1996
N2O emission factor	2013	1.000E-04	Jenkins et al. 1996
N2O emission factor	2014	1.000E-04	Jenkins et al. 1996

### Activity = Crop acreage burned - Rice

- Variable Name -	- Year -	- Value and Units -	- Reference -
Crop acreage burned - Rice	2000	147,960 acre	Calculation, see text

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop acreage burned - Rice	2001	70,650 acre	Calculation, see text
Crop acreage burned - Rice	2002	69,071 acre	Calculation, see text
Crop acreage burned - Rice	2003	70,980 acre	Calculation, see text
Crop acreage burned - Rice	2004	72,570 acre	Calculation, see text
Crop acreage burned - Rice	2005	67,854 acre	Calculation, see text
Crop acreage burned - Rice	2006	70,605 acre	Calculation, see text
Crop acreage burned - Rice	2007	64,791 acre	Calculation, see text
Crop acreage burned - Rice	2008	63,074 acre	Calculation, see text
Crop acreage burned - Rice	2009	56,156 acre	Calculation, see text
Crop acreage burned - Rice	2010	56,406 acre	Calculation, see text
Crop acreage burned - Rice	2011	54,520 acre	Calculation, see text
Crop acreage burned - Rice	2012	49,453 acre	Calculation, see text
Crop acreage burned - Rice	2013	47,770 acre	Calculation, see text
Crop acreage burned - Rice	2014	37,885 acre	Calculation, see text
CH4 emission factor	2000	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2001	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2002	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2003	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2004	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2005	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2006	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2007	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2008	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2009	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2010	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2011	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2012	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2013	7.200E-04	Jenkins et al. 1996
CH4 emission factor	2014	7.200E-04	Jenkins et al. 1996
CO2 emission factor	2000	1.16	Jenkins et al. 1996
CO2 emission factor	2001	1.16	Jenkins et al. 1996
CO2 emission factor	2002	1.16	Jenkins et al. 1996
CO2 emission factor	2003	1.16	Jenkins et al. 1996
CO2 emission factor	2004	1.16	Jenkins et al. 1996
CO2 emission factor	2005	1.16	Jenkins et al. 1996
CO2 emission factor	2006	1.16	Jenkins et al. 1996
CO2 emission factor	2007	1.16	Jenkins et al. 1996
CO2 emission factor	2008	1.16	Jenkins et al. 1996
CO2 emission factor	2009	1.16	Jenkins et al. 1996
CO2 emission factor	2010	1.16	Jenkins et al. 1996
CO2 emission factor	2011	1.16	Jenkins et al. 1996
CO2 emission factor	2012	1.16	Jenkins et al. 1996
CO2 emission factor	2013	1.16	Jenkins et al. 1996
CO2 emission factor	2014	1.16	Jenkins et al. 1996
Crop acreage	2000	548,000 acre	USDA, 2016
Crop acreage	2001	471,000 acre	USDA, 2016
Crop acreage	2002	531,314 acre	USDA, 2016
Crop acreage	2003	507,000 acre	USDA, 2016
Crop acreage	2004	590,000 acre	USDA, 2016
Crop acreage	2005	526,000 acre	USDA, 2016
Crop acreage	2006	523,000 acre	USDA, 2016
Crop acreage	2007	531,075 acre	USDA, 2016
Crop acreage	2008	517,000 acre	USDA, 2016
Crop acreage	2009	556,000 acre	USDA, 2016
Crop acreage	2010	553,000 acre	USDA, 2016
Crop acreage	2011	580,000 acre	USDA, 2016

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop acreage	2012	561,968 acre	USDA, 2016
Crop acreage	2013	562,000 acre	USDA, 2016
Crop acreage	2014	431,000 acre	USDA, 2016
Crop residue	2000	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2001	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2002	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2003	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2004	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2005	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2006	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2007	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2008	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2009	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2010	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2011	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2012	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2013	6,750,000 g / ha	Jenkins et al. 1992
Crop residue	2014	6,750,000 g / ha	Jenkins et al. 1992
Fraction of acreage burned	2000	0.27	ARB, 2003
Fraction of acreage burned	2001	0.15	ARB, 2003
Fraction of acreage burned	2002	0.13	ARB, 2003
Fraction of acreage burned	2003	0.14	USEPA, 2008
Fraction of acreage burned	2004	0.123	TSD Rice
Fraction of acreage burned	2005	0.129	TSD Rice
Fraction of acreage burned	2006	0.135	TSD Rice
Fraction of acreage burned	2007	0.122	TSD Rice
Fraction of acreage burned	2008	0.122	TSD Rice
Fraction of acreage burned	2009	0.101	TSD Rice
Fraction of acreage burned	2010	0.102	TSD Rice
Fraction of acreage burned	2011	0.094	TSD Rice
Fraction of acreage burned	2012	0.088	TSD Rice
Fraction of acreage burned	2013	0.085	TSD Rice
Fraction of acreage burned	2014	0.0879	TSD Rice
N2O emission factor	2000	2.000E-04	Jenkins et al. 1996
N2O emission factor	2001	2.000E-04	Jenkins et al. 1996
N2O emission factor	2002	2.000E-04	Jenkins et al. 1996
N2O emission factor	2003	2.000E-04	Jenkins et al. 1996
N2O emission factor	2004	2.000E-04	Jenkins et al. 1996
N2O emission factor	2005	2.000E-04	Jenkins et al. 1996
N2O emission factor	2006	2.000E-04	Jenkins et al. 1996
N2O emission factor	2007	2.000E-04	Jenkins et al. 1996
N2O emission factor	2008	2.000E-04	Jenkins et al. 1996
N2O emission factor	2009	2.000E-04	Jenkins et al. 1996
N2O emission factor	2010	2.000E-04	Jenkins et al. 1996
N2O emission factor	2011	2.000E-04	Jenkins et al. 1996
N2O emission factor	2012	2.000E-04	Jenkins et al. 1996
N2O emission factor	2013	2.000E-04	Jenkins et al. 1996
N2O emission factor	2014	2.000E-04	Jenkins et al. 1996

### Activity = Crop acreage burned - Walnut

- Variable Name -	- Year -	- Value and Units -	- Reference -
Crop acreage burned - Walnut	2000	190,000 acre	Calculation, see text
Crop acreage burned - Walnut	2001	193,800 acre	Calculation, see text
Crop acreage burned - Walnut	2002	199,500 acre	Calculation, see text
Crop acreage burned - Walnut	2003	202,350 acre	Calculation, see text
Crop acreage burned - Walnut	2004	203,300 acre	Calculation, see text

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop acreage burned - Walnut	2005	204,250 acre	Calculation, see text
Crop acreage burned - Walnut	2006	205,200 acre	Calculation, see text
Crop acreage burned - Walnut	2007	211,743 acre	Calculation, see text
Crop acreage burned - Walnut	2008	218,500 acre	Calculation, see text
Crop acreage burned - Walnut	2009	228,000 acre	Calculation, see text
Crop acreage burned - Walnut	2010	242,250 acre	Calculation, see text
Crop acreage burned - Walnut	2011	251,750 acre	Calculation, see text
Crop acreage burned - Walnut	2012	257,278 acre	Calculation, see text
Crop acreage burned - Walnut	2013	266,000 acre	Calculation, see text
Crop acreage burned - Walnut	2014	275,500 acre	Calculation, see text
CH4 emission factor	2000	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2001	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2002	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2003	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2004	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2005	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2006	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2007	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2008	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2009	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2010	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2011	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2012	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2013	1.640E-03	Jenkins et al. 1996
CH4 emission factor	2014	1.640E-03	Jenkins et al. 1996
CO2 emission factor	2000	1.64	Jenkins et al. 1996
CO2 emission factor	2001	1.64	Jenkins et al. 1996
CO2 emission factor	2002	1.64	Jenkins et al. 1996
CO2 emission factor	2003	1.64	Jenkins et al. 1996
CO2 emission factor	2004	1.64	Jenkins et al. 1996
CO2 emission factor	2005	1.64	Jenkins et al. 1996
CO2 emission factor	2006	1.64	Jenkins et al. 1996
CO2 emission factor	2007	1.64	Jenkins et al. 1996
CO2 emission factor	2008	1.64	Jenkins et al. 1996
CO2 emission factor	2009	1.64	Jenkins et al. 1996
CO2 emission factor	2010	1.64	Jenkins et al. 1996
CO2 emission factor	2011	1.64	Jenkins et al. 1996
CO2 emission factor	2012	1.64	Jenkins et al. 1996
CO2 emission factor	2013	1.64	Jenkins et al. 1996
CO2 emission factor	2014	1.64	Jenkins et al. 1996
Crop acreage	2000	200,000 acre	USDA, 2016
Crop acreage	2001	204,000 acre	USDA, 2016
Crop acreage	2002	210,000 acre	USDA, 2016
Crop acreage	2003	213,000 acre	USDA, 2016
Crop acreage	2004	214,000 acre	USDA, 2016
Crop acreage	2005	215,000 acre	USDA, 2016
Crop acreage	2006	216,000 acre	USDA, 2016
Crop acreage	2007	222,887 acre	USDA, 2016
Crop acreage	2008	230,000 acre	USDA, 2016
Crop acreage	2009	240,000 acre	USDA, 2016
Crop acreage	2010	255,000 acre	USDA, 2016
Crop acreage	2011	265,000 acre	USDA, 2016
Crop acreage	2012	270,819 acre	USDA, 2016
Crop acreage	2013	280,000 acre	USDA, 2016
Crop acreage	2014	290,000 acre	USDA, 2016

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop residue	2000	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2001	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2002	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2003	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2004	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2005	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2006	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2007	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2008	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2009	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2010	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2011	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2012	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2013	1,460,000 g / ha	Jenkins et al. 1992
Crop residue	2014	1,460,000 g / ha	Jenkins et al. 1992
Fraction of acreage burned	2000	0.95	Jenkins et al. 1992
Fraction of acreage burned	2001	0.95	Jenkins et al. 1992
Fraction of acreage burned	2002	0.95	Jenkins et al. 1992
Fraction of acreage burned	2003	0.95	Jenkins et al. 1992
Fraction of acreage burned	2004	0.95	Jenkins et al. 1992
Fraction of acreage burned	2005	0.95	Jenkins et al. 1992
Fraction of acreage burned	2006	0.95	Jenkins et al. 1992
Fraction of acreage burned	2007	0.95	Jenkins et al. 1992
Fraction of acreage burned	2008	0.95	Jenkins et al. 1992
Fraction of acreage burned	2009	0.95	Jenkins et al. 1992
Fraction of acreage burned	2010	0.95	Jenkins et al. 1992
Fraction of acreage burned	2011	0.95	Jenkins et al. 1992
Fraction of acreage burned	2012	0.95	Jenkins et al. 1992
Fraction of acreage burned	2013	0.95	Jenkins et al. 1992
Fraction of acreage burned	2014	0.95	Jenkins et al. 1992
N2O emission factor	2000	2.000E-04	Jenkins et al. 1996
N2O emission factor	2001	2.000E-04	Jenkins et al. 1996
N2O emission factor	2002	2.000E-04	Jenkins et al. 1996
N2O emission factor	2003	2.000E-04	Jenkins et al. 1996
N2O emission factor	2004	2.000E-04	Jenkins et al. 1996
N2O emission factor	2005	2.000E-04	Jenkins et al. 1996
N2O emission factor	2006	2.000E-04	Jenkins et al. 1996
N2O emission factor	2007	2.000E-04	Jenkins et al. 1996
N2O emission factor	2008	2.000E-04	Jenkins et al. 1996
N2O emission factor	2009	2.000E-04	Jenkins et al. 1996
N2O emission factor	2010	2.000E-04	Jenkins et al. 1996
N2O emission factor	2011	2.000E-04	Jenkins et al. 1996
N2O emission factor	2012	2.000E-04	Jenkins et al. 1996
N2O emission factor	2013	2.000E-04	Jenkins et al. 1996
N2O emission factor	2014	2.000E-04	Jenkins et al. 1996

### Activity = Crop acreage burned - Wheat

- Variable Name -	- Year -	- Value and Units -	- Reference -
Crop acreage burned - Wheat	2000	53,570 acre	Calculation, see text
Crop acreage burned - Wheat	2001	50,710 acre	Calculation, see text
Crop acreage burned - Wheat	2002	45,141 acre	Calculation, see text
Crop acreage burned - Wheat	2003	57,750 acre	Calculation, see text
Crop acreage burned - Wheat	2004	46,200 acre	Calculation, see text
Crop acreage burned - Wheat	2005	40,590 acre	Calculation, see text
Crop acreage burned - Wheat	2006	34,650 acre	Calculation, see text
Crop acreage burned - Wheat	2007	38,958 acre	Calculation, see text

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop acreage burned - Wheat	2008	59,950 acre	Calculation, see text
Crop acreage burned - Wheat	2009	53,900 acre	Calculation, see text
Crop acreage burned - Wheat	2010	46,750 acre	Calculation, see text
Crop acreage burned - Wheat	2011	58,300 acre	Calculation, see text
Crop acreage burned - Wheat	2012	54,103 acre	Calculation, see text
Crop acreage burned - Wheat	2013	43,340 acre	Calculation, see text
Crop acreage burned - Wheat	2014	24,200 acre	Calculation, see text
CH4 emission factor	2000	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2001	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2002	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2003	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2004	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2005	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2006	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2007	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2008	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2009	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2010	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2011	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2012	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2013	1.820E-03	Jenkins et al. 1996
CH4 emission factor	2014	1.820E-03	Jenkins et al. 1996
CO2 emission factor	2000	1.19	Jenkins et al. 1996
CO2 emission factor	2001	1.19	Jenkins et al. 1996
CO2 emission factor	2002	1.19	Jenkins et al. 1996
CO2 emission factor	2003	1.19	Jenkins et al. 1996
CO2 emission factor	2004	1.19	Jenkins et al. 1996
CO2 emission factor	2005	1.19	Jenkins et al. 1996
CO2 emission factor	2006	1.19	Jenkins et al. 1996
CO2 emission factor	2007	1.19	Jenkins et al. 1996
CO2 emission factor	2008	1.19	Jenkins et al. 1996
CO2 emission factor	2009	1.19	Jenkins et al. 1996
CO2 emission factor	2010	1.19	Jenkins et al. 1996
CO2 emission factor	2011	1.19	Jenkins et al. 1996
CO2 emission factor	2012	1.19	Jenkins et al. 1996
CO2 emission factor	2013	1.19	Jenkins et al. 1996
CO2 emission factor	2014	1.19	Jenkins et al. 1996
Crop acreage	2000	487,000 acre	USDA, 2016
Crop acreage	2001	461,000 acre	USDA, 2016
Crop acreage	2002	410,369 acre	USDA, 2016
Crop acreage	2003	525,000 acre	USDA, 2016
Crop acreage	2004	420,000 acre	USDA, 2016
Crop acreage	2005	369,000 acre	USDA, 2016
Crop acreage	2006	315,000 acre	USDA, 2016
Crop acreage	2007	354,165 acre	USDA, 2016
Crop acreage	2008	545,000 acre	USDA, 2016
Crop acreage	2009	490,000 acre	USDA, 2016
Crop acreage	2010	425,000 acre	USDA, 2016
Crop acreage	2011	530,000 acre	USDA, 2016
Crop acreage	2012	491,846 acre	USDA, 2016
Crop acreage	2013	394,000 acre	USDA, 2016
Crop acreage	2014	220,000 acre	USDA, 2016
Crop residue	2000	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2001	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2002	3,660,000 g / ha	Jenkins et al. 1992

## Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Crop residue	2003	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2004	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2005	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2006	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2007	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2008	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2009	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2010	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2011	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2012	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2013	3,660,000 g / ha	Jenkins et al. 1992
Crop residue	2014	3,660,000 g / ha	Jenkins et al. 1992
Fraction of acreage burned	2000	0.11	Jenkins et al. 1992
Fraction of acreage burned	2001	0.11	Jenkins et al. 1992
Fraction of acreage burned	2002	0.11	Jenkins et al. 1992
Fraction of acreage burned	2003	0.11	Jenkins et al. 1992
Fraction of acreage burned	2004	0.11	Jenkins et al. 1992
Fraction of acreage burned	2005	0.11	Jenkins et al. 1992
Fraction of acreage burned	2006	0.11	Jenkins et al. 1992
Fraction of acreage burned	2007	0.11	Jenkins et al. 1992
Fraction of acreage burned	2008	0.11	Jenkins et al. 1992
Fraction of acreage burned	2009	0.11	Jenkins et al. 1992
Fraction of acreage burned	2010	0.11	Jenkins et al. 1992
Fraction of acreage burned	2011	0.11	Jenkins et al. 1992
Fraction of acreage burned	2012	0.11	Jenkins et al. 1992
Fraction of acreage burned	2013	0.11	Jenkins et al. 1992
Fraction of acreage burned	2014	0.11	Jenkins et al. 1992
N2O emission factor	2000	1.000E-04	Jenkins et al. 1996
N2O emission factor	2001	1.000E-04	Jenkins et al. 1996
N2O emission factor	2002	1.000E-04	Jenkins et al. 1996
N2O emission factor	2003	1.000E-04	Jenkins et al. 1996
N2O emission factor	2004	1.000E-04	Jenkins et al. 1996
N2O emission factor	2005	1.000E-04	Jenkins et al. 1996
N2O emission factor	2006	1.000E-04	Jenkins et al. 1996
N2O emission factor	2007	1.000E-04	Jenkins et al. 1996
N2O emission factor	2008	1.000E-04	Jenkins et al. 1996
N2O emission factor	2009	1.000E-04	Jenkins et al. 1996
N2O emission factor	2010	1.000E-04	Jenkins et al. 1996
N2O emission factor	2011	1.000E-04	Jenkins et al. 1996
N2O emission factor	2012	1.000E-04	Jenkins et al. 1996
N2O emission factor	2013	1.000E-04	Jenkins et al. 1996
N2O emission factor	2014	1.000E-04	Jenkins et al. 1996